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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/091,534  | 03/07/2002  | Bill Copes           | N1305-024           | 8388             |
| 32905   | 7590        | 02/17/2004           | EXAMINER            |                  |
| JONDLE & ASSOCIATES P.C.<br>9085 EAST MINERAL CIRCLE<br>SUITE 200<br>CENTENNIAL, CO 80112 |             |                      | KUBELIK, ANNE R     |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 1638                |                  |

DATE MAILED: 02/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/091,534

Applicant(s)

COPES, BILL

Examiner

Anne R. Kubelik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 7/24/03 and 03 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 and 33-52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5, 7, 9, 35-43 and 45-48 is/are allowed.
- 6) ☒ Claim(s) 6, 8, 10, 44 and 49-52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                   | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. | 6) <input type="checkbox"/> Other: _____.                                   |

### **DETAILED ACTION**

1. Claims 1-10 and 33-52 are pending. As the response filed 03 November 2003 is identical to that filed 24 July 2003, only the former will be discussed below. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. The rejection of claims 1-32 under 35 USC 112, first paragraph, as containing subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention is withdrawn in light of Applicant's statements about the deposit on pg 5-6 of the response filed 3 November 2003.
5. The objection to claims 1, 9 and 18 to for the inclusion of a blank line where the ATCC Accession number should be is withdrawn pending allowance.
6. The objection to claims 7-8, 18-21, 23, 26 and 32 because of informalities is withdrawn in light of Applicant's amendments to the claims.

### ***Claim Objections***

7. Claim 6 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 6 is drawn to a cantaloupe plant of claim 2, wherein the plant is male sterile. Claim 2 is drawn to a cantaloupe plant produced by growing a particular seed line. The plant of claim 2 is not male sterile (see the specification in paragraph 0053, where the plant was self-pollinated). Thus, the plant of claim 6 is broader than the plant of claim 2, and

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claim 6 fails to further limit claim 2. The rejection is repeated for the reasons of record as set forth in the Office action mailed 24 April 2003. Applicant's arguments filed 03 November 2003 have been fully considered but they are not persuasive.

Applicant urges that the claim has been cancelled (response pg 2).

This is not found persuasive because the claim has not so been cancelled.

***Claim Rejections - 35 USC § 112***

8. Claim 6 remains rejected and claims 8 and 49-52 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The rejection is modified from the rejection set forth in the Office action mailed 24 April 2003, as applied to claims 6, 11-13, 15-17 and 19-32. Applicant's arguments filed 03 November 2003 have been fully considered but they are not persuasive.

The claim 6 and 49-52 are drawn to hybrid and gene-converted cantaloupe plants, wherein it remains unclear what the identity of the plants in each of the steps would be, much less what the resultant product plant would be. Neither the plants required by each of the steps, nor the plants that are produced by the process are defined by genomic structure or by all their phenotypic characteristics, and therefore, the claimed invention lacks an adequate written description.

Claim 8 is drawn to tissue culture derived from seed of a cantaloupe plant. The plants produced from the seeds are not defined by genomic structure or by all their phenotypic characteristics, and therefore, the claimed invention lacks an adequate written description.

Applicant urges that as long as a line is self-pollinated, the genotype and phenotype is stable (response pg 3). This is not found persuasive because Applicant is arguing a limitation (self-pollination) not in the claims.

Applicant urges that because an inbred has a homozygous genome, all gametes will be identical and carry a copy of each parental chromosome. Applicant urges that thus the genome of the inbred is present in the hybrid. Applicant urges that as long as the homozygosity of the parental lines is maintained, the resulting hybrid cross will be genetically and phenotypically stable (response pg 3-4).

This is not found persuasive because crossing the inbred with plant of another genotype means the resulting hybrid has a genotype and phenotype that is different from that of its parents.

Applicant urges that the F1 hybrid is a combination of the phenotypic characteristics from the two arrangements and organizations of the genes. Applicant also urges that the creation of the F1 is thus highly predictable; dominant alleles present and expressed in the inbred will be expressed by the F1 hybrid (response pg 4). This is not found persuasive because those dominant alleles have not been described. What is the phenotype of the claimed hybrids? What are their genotypes?

Applicant urges that new claims 51 and 52 have 50% of their genetic material from the gametes of the inbred line and thus satisfy the provision of 35 USC 112, 1<sup>st</sup> paragraph (response

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pg 4). This is not found persuasive because the entire genotype and phenotype of the claimed hybrids have not been described.

Applicant urges that when the F1 itself produced gametes, the genetic arrangement is not predictable due to meiotic recombination and to homologous recombination (response pg 4-6).

This is agreed.

9. Claims 49-50 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The claims are broadly drawn to plants having all of the physiological and morphological characteristics of the plant of claim 2 but further comprising one or more single gene transferred traits, seeds from the plant and soybean breeding methods producing it.

The instant specification, however, only provides general guidance for backcrossing (pg 9). The instant specification fails to provide guidance for transferring only a single gene by crossing from one plant to another, especially via a single backcross.

Kraft et al (2000, Theor. Appl. Genet. 101:323-326) teach that linkage disequilibrium effects and linkage drag prevent the making of plants comprising a single gene conversion, and that such effects are unpredictably genotype specific and loci-dependent in nature (pg 323, column 2, line 7 to line 15). Kraft et al teach that linkage disequilibrium is created in breeding materials when several lines become fixed for a given set of alleles at a number of different loci, and that very little is typically known about the plant breeding materials, and therefore it is an unpredictable effect in plant breeding (pg 323, column 2, line 7 to line 15).

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The instant specification does not teach how to overcome these problems.

Given the claim breath, unpredictability, and lack of guidance as discussed above, undue experimentation would have been required by one skilled in the art to develop and evaluate plants comprising a single gene transferred trait.

10. Claims 6, 8, 10 remain rejected and claim 44 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicant regards as the invention. Dependent claims are included in all rejections. The rejection is modified from the rejection set forth in the Office action mailed 24 April 2003, as applied to claims 1-32. Applicant's arguments filed 03 November 2003 have been fully considered but they are not persuasive.

Claim 6 is indefinite because it is unclear what physiological or morphological characteristics of the plant of claim 2 have been altered to produce the male sterile plant. Male sterility can be the result of many different physiological and/or morphological changes.

Applicant urges that the claim has been cancelled (response pg 7).

This is not found persuasive because the claim has not been cancelled.

The following rejections are new:

Claim 8 is indefinite because protoplasts and calli are not tissue cultures.

Claim 10 lacks antecedent basis for the limitation "the hybrid cantaloupe seed ... plants" in lines 3-4.

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Claim 44 is indefinite in its recitation of “which produces fruits who increased sweetness”. This phrase makes no sense. Could words have been omitted? If not, how did the fruits increase sweetness?

***Claim Rejections - 35 USC § 102 - 35 USC § 103***

11. Claim 6 remains rejected and claims 8 and 50-52 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103 as obvious over Riley et al (2001, J. Entomological Sci. 36:46-56). The rejection is repeated for the reasons of record as set forth in the Office action mailed 24 April 2003, as applied to claims 6, 11-13, 15-17 and 19-32. Applicant's arguments filed 03 November 2003 have been fully considered but they are not persuasive.

Applicant has claimed plants and tissue cultures derived from Inbred 442 cantaloupe after one or more crosses and using unspecified second parents and methods of making those plants and tissue cultures. However, it appears that the claimed plants, tissue cultures and seeds are the same as the prior art cantaloupes disclosed by Riley et al (Tables 1 and 5), given that each has a high yield and a high level of soluble solids, for example. Alternatively, if the claimed plants and seeds of the instant invention are not identical to the prior art cantaloupes, then it appears that the prior art cantaloupes only differ from the claimed plants and seeds due to minor morphological variation, wherein said minor morphological variation would be expected to occur in different progeny of the same cultivar, and wherein said minor morphological variation would not confer a patentable distinction to Inbred 442-derived plants. Similarly, the methods of crossing Inbred 442-derived cantaloupe would be the same as the methods of producing and



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crossing the prior art cantaloupes. Thus the claimed invention was *prima facie* obvious as a whole to one of ordinary skill in the art at the time it was made, if not anticipated by progeny of prior art cantaloupes and methods of their use.

Applicant urges that claims 6, 11-13, 15-17 and 19-32 are cancelled (response pg 8).

This is not found persuasive because claim 6 has not been cancelled. Additionally, the prior art cantaloupes disclosed by Riley et al appear to be identical to the instantly claimed cantaloupe plants, given the lack of written description, as discussed above.

### ***Double Patenting***

12. Claim 6 remains rejected and claims 8 and 50-52 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 8-25 of issued patent 6,420,631. Although the conflicting claims are not identical, they are not patentably distinct from each other. The rejection is repeated for the reasons of record as set forth in the Office action mailed 24 April 2003, as applied to claims 6, 11-13, 15-17 and 19-32. Applicant's arguments filed 03 November 2003 have been fully considered but they are not persuasive.

Applicant urges that GdM3 cantaloupe is monoecious while 442 is andromonoecious (response pg 9).

This is not found persuasive because it appears the claimed Inbred 442-derived plants and seeds are the same as GdM3-derived cantaloupe plants, as claimed in the issued patent or they only differ due to minor morphological variation. The monoecious/andromonoecious phenotype is not a claimed limitation in the progeny plants.

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13. Claims 1-5, 7, 9, 35-43 and 45-48 are allowed.
14. Claims 10 and 44 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

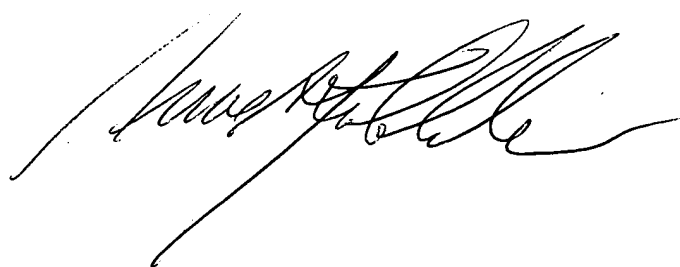
***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne R. Kubelik, whose telephone number is (571) 272-0801. The examiner can normally be reached Monday through Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached at (571) 272-0804. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Customer Service at (703) 308-0198.

Anne R. Kubelik, Ph.D.  
January 5, 2004

A handwritten signature in black ink, appearing to read 'Anne R. Kubelik', with a long, sweeping horizontal line extending to the right.